



Memorandum

To: Provosts and Chief Academic Officers

CC: Mathematics Chairs/Leads

From: Dr. Ricardo Moena Faculty/Lead, Ohio Transfer Module Mathematics, Statistics, and Logic Review Panel/ Subgroup 2 of the Ohio Mathematics Initiative Chairs/Leads Network

Date: March 12, 2021

Subject: Announcement of Learning Outcomes for Ohio Transfer Module TMM023 (Discrete Mathematics)

Background:

The Ohio Transfer Module (OTM), Subgroup 2, Mathematics, Statistics, and Logic have been tasked with exploring the possibility of a discrete mathematics course specializing in the application of mathematics for students interested in computer science, information technology, and related fields. This effort is rooted in future exploration of Ohio Guaranteed Transfer Pathways (OGTP) computer science and information technology pathways.

Proposed Discrete Mathematics (TMM023) learning outcomes are based on college-level mathematics. TMM023 is recommended to introduce students to the logic and mathematical structures required in these fields of interest and serve the following purposes:

- Serves as a course that acquaints mathematical reasoning and several topics from discrete mathematics that underlie, inform, or elucidate the development, study, and practice of related fields.
- Act as a course integrating topics surrounding logic, proof techniques, set theory, functions and relations, counting and probability, elementary number theory, graphs and tree theory, base- n arithmetic, and Boolean algebra.

In September 2020 and December 2020 endorsement and re-endorsement survey requests were distributed statewide to gain endorsement for the proposed criteria of the new Mathematics, Statistics, and Logic OTM course. At the conclusion of each survey, institutional responses were reviewed by the

panel to address concerns expressed by some institutions, the following updates were taken into consideration.

- **We have removed a number of “essential” learning outcomes and have transitioned these into “non-essential” learning outcomes to address institutional concerns on the length of required outcomes. These “non-essential” learning outcomes have been intact to provide flexibility and assist institutions with developing or revising their institutional course.**
- **The original “Functions and Relations” topical area and outcomes have been split into three separate areas that now include: “Relations”, “Functions”, and “Sequence”. The topics required to achieve the learning outcomes described in TMM023 have not changed but rather formatted accordingly.**
- **As a reminder, learning outcomes marked with an asterisk have been deemed essential and are required for OTM course approval. However, in order to provide flexibility, institutions should also include the non-essential outcomes that are most appropriate for their course. It is up to individual institutions to determine if further adaptation of additional course learning outcomes beyond the ones in this document are necessary to support their students’ needs. In addition, individual institutions will determine their own level of student engagement and manner of implementation. Course guidelines simply seek to foster thinking in this direction.**

The results of the statewide endorsement survey indicated strong support for the creation of a course in the area of Discrete Mathematics. As a result, this OTM course has been added to the Mathematics, Statistics, and Logic OTM, effective immediately. This announcement will assist your institution with course development or refining your existing course(s) to better align with transfer guarantees. Institutions will need to submit related course for panel review prior to approval. Thank you for sharing this memo and attachments with the appropriate Mathematics faculty and administrators at your institution.

If you or your OTM coordinator have any questions, please contact the faculty lead for the Ohio Transfer Module Mathematics, Statistics, and Logic Review Panel/Subgroup 2, Dr. Ricardo Moena at ricardo.moena@uc.edu or (513) 556-4055 or Jessi Spencer, Director of Articulation and Transfer Policy, Budget, and Constituent Relations at jspencer@highered.ohio.gov or (614) 728-4706.

Attachments (2)